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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/578,758

12/11/2006

Zhaoyan Liu

153-002USAC00

1529

84704 7590 12/14/2010  
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EXAMINER

BUSHEY, CHARLES S

ART UNIT

PAPER NUMBER

1776

MAIL DATE

DELIVERY MODE

12/14/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                   |  |
|------------------------------|--------------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/578,758 | <b>Applicant(s)</b><br>LIU ET AL. |  |
|                              | <b>Examiner</b><br>Scott Bushey      | <b>Art Unit</b><br>1776           |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 14-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5-14-10; 9-30-10</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-11, and 14-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 9, "grid plates" should be replaced by --grid trays-- to maintain consistent language throughout the claim. In claim 1, line 21, "opposite pair of sides" should be replaced by --opposite sides-- to be consistent with the language as corrected within the specification. In claim 1, line 30, "plates and parallel to said grid plates" should be replaced by --trays and parallel to said grid trays-- to maintain consistent language throughout the claim. In claim 1, lines 33-34, "in grid tray" should be replaced by --in each said grid tray--. In claim 1, lines 35-36, "in grid tray" should be replaced by --in each said grid tray--.

In claim 3, "said layer interval" lacks antecedent basis, since claim 1 only recites "an interval", rather than "a layer interval".

In claims 4 and 21, it is unclear as to what applicant intends to claim as his invention with respect to the "hybrid of a) and b)". Since this particular rejection was made in the previous Office action and ignored by applicant, the quoted phrase must either be cancelled outright or amendatory language added to clearly set forth a distinct structure indicative of that which applicant intends to claim as his invention. Failure to

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do so after this Final rejection will result in either a holding of non-responsive amendment or an Advisory Action denying entry of an amendment that does not address all grounds of rejection to place the application in complete condition for allowance.

In claim 11, lines 7-10 are vague and indefinite in that the claim states that the internal tower may have a round cross-section and at the same time have four pillars in its four corners. Apparently, applicant's amendment to claim 11 has mixed the language which defines the structure of the tower housing with the structure of the internal tower.

In claim 14, line 2, "opposite pair of sides" should be replaced by --opposite sides-- to be consistent with the language as corrected within the specification.

In claim 19, lines 5 and 6, respectively, "the locating blocks" and "the matching stoppers" lack antecedent basis.

In claim 20, "the layer interval" lacks antecedent basis, since claim 11 from which it depends only recites "an interval".

Claims 24 and 27 have been amended to depend from cancelled claim 13, which renders the claims vague and indefinite. Also, in claim 24, "said clamps" lack antecedent basis, since the clamps are not introduced until dependent claim 17.

Since the only rejections that are currently applied against the instant claims are those as set forth above under 35 U.S.C. 112, second paragraph, it is incumbent upon applicant to insure that all of the rejections are addressed and all of the claims are

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placed into allowable form so that the application may be passed to issuance at the earliest possible moment.

***Allowable Subject Matter***

3. Claims 1-11, and 14-27 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The claims would be allowable for the reasons of record, as set forth in the previous Office action.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-11, and 14-27 have been considered but are moot in view of the new grounds of rejection, which were necessitated by the amendments made by applicant in the response filed September 30, 2010.

***Conclusion***

5. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bushey whose telephone number is 571 272-1153. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Scott Bushey  
Primary Examiner  
Art Unit 1776

/S. B./  
12-12-10

/Scott Bushey/  
Primary Examiner, Art Unit 1776

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